

REMARKS

The present Amendment amends claims 1, 5 and 6 and leaves claims 2-4 unchanged. Therefore, the present application has pending claims 1-6.

Claims 1-4 stand rejected under 35 USC §103(a) as being unpatentable over Freeman (EP No. 973292 A2); and claims 5 and 6 stand rejected under 35 USC §103(a) as being unpatentable over Freeman in view Dissosway (U.S. Patent No. 4,903,262). These rejections are traversed for the following reasons. Applicants submit that the features of the present invention as recited in claims 1-6 are not taught or suggested by Freeman or Dissosway whether taken individually or in combination with each other as suggested by the Examiner. Therefore, Applicants respectfully request the Examiner to reconsider and withdraw these rejections.

The features of the present invention are entirely different from that taught by Freeman or Dissosway whether taken individually or in combination with each other as suggested by the Examiner.

The present invention is directed to a turbo decoder for use in a mobile station which is used in association with a base station. The turbo decoder according to the present invention includes a decoder for inputting data turbo-coded for correcting an error and repeatedly carrying out soft output decoding to thereby restore original data, judging means for judging a reliability of a soft output decoding result from the decoder provided by the soft output decoding from statistics of the soft output decoding result, and controlling means for controlling an iteration number of the soft output decoding based on a judgment result of the reliability judging means.

Unique according to the present invention, for example, in Fig. 1 of the present application is that the reliability judging block 612 performs the reliability judgment based upon the result of the soft output decoding performed by the SOVA decoder 602. The reliability judgment block 612 outputs a determination of its judgment to the control block 604 which controls operation of the decoded data memory 603 and the input signal memory 601. Thus, according to the present invention the judging as to the number of iterations to be performed is based upon a statistical analysis of the result of soft output decoding generated by actually decoding turbo codes by the turbo decoder. Thus, the present invention operates, for example, on the “back end” after the decoding operation has been performed by the decoder.

The above described features of the present invention now more clearly recited in the claims differs substantially from that taught by Freeman. Freeman teaches a decoder apparatus such as that illustrated in, for example, in Figs. 3 and 5 thereof, wherein an analyzer 301 is provided for analyzing the level of corruption of each of a plurality of transmitted messages prior to the messages being turbo decoded and generating data describing a signal processing requirement for turbo decoding the message. As taught in Freeman, based on the data output by the analyzer 301 the scheduler 304 selectively assigns the messages to the decoders 312-318 in a manner so as to optimally perform the decoding based upon iterations predetermined by the analyzer 301. Thus, the system taught by Freeman operates on the “front end” prior to the turbo decoding operations to be performed by the decoder.

As is quite clear from the above, the features of the present invention are completely opposite from that taught by Freeman being that the present invention operates on the "back end" of the decoder so as to judge the reliability of soft output decoding results from the decoder and determine the number of iterations based upon the determination of reliability of the results of decoding. Thus, the features of the present invention differs entirely from that taught by Freeman.

Therefore, Freeman fails to teach or suggest judging means for judging a reliability of a soft output decoding result from the decoder provided by the soft output decoding from statistics of the soft output decoding results as recited in the claims.

Further, Freeman fails to teach or suggest controlling means for controlling an iteration number of the soft output decoding based on a judgment result of the reliability judging means as recited in the claims.

Thus, as is quite clear from the above, the features of the present invention as now more clearly recited in the claims are not taught or suggested by Freeman whether taken individually or in combination with any of the other references of record. Therefore, reconsideration and withdrawal of the 35 USC §103(a) rejection of claims 1-4 as being unpatentable over Freeman is respectfully requested.

The above noted deficiencies of Freeman are not supplied by Dissosway. Therefore, combining the teachings of Freeman and Dissosway in the manner suggested by the Examiner in the Office Action still fails to teach or suggest the features of the present invention as now more clearly recited in the claims.

The Examiner merely relies upon Dissosway for an alleged teaching of a mobile communications system with mobile transceivers and mobile terminals. However, at no point is there any allegation by the Examiner, nor upon review of Dissosway is there any teaching therein of the above described features of the present invention regarding the judging means and the controlling means. As noted above, these features are also not taught or suggested by Freeman.

Thus, combining the teachings of Freeman with Dissosway in the manner suggested by the Examiner still fails to teach or suggest the features of the present invention as now more clearly recited in the claims. Therefore, reconsideration and withdrawal of the 35 USC §103(a) rejection of claims 5 and 6 as being unpatentable over Freeman in view of Dissosway is respectfully requested.

The remaining references of record have been studied. Applicants submit that they do not supply any of the deficiencies noted above with respect to the references utilized in the rejection of claims 1-6.

In view of the foregoing amendments and remarks, Applicants submit that claims 1-6 are in condition for allowance. Accordingly, early allowance of claims 1-6 is respectfully requested.

To the extent necessary, the applicants petition for an extension of time under 37 CFR 1.136. Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, or credit any overpayment of fees, to the deposit account of Antonelli, Terry, Stout & Kraus, LLP, Deposit Account No. 01-2135 (520.40478X00).

Respectfully submitted,

ANTONELLI, TERRY, STOUT & KRAUS, LLP



Carl I. Brundidge
Registration No. 29,621

CIB/jdc
(703) 312-6600